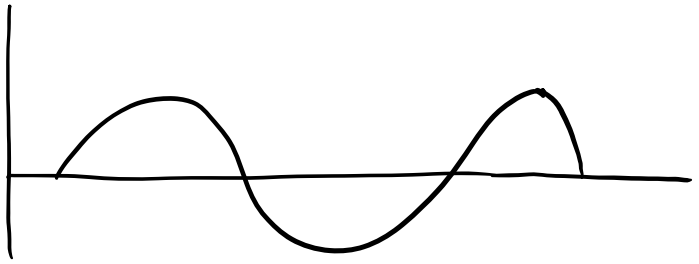
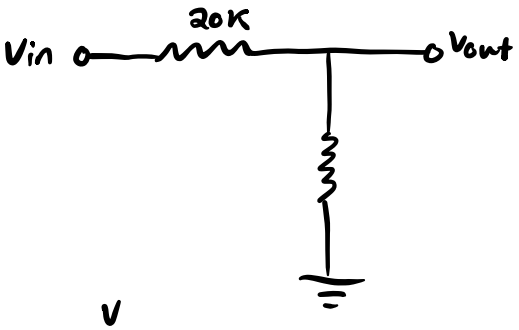
AC Signals

$f = 60\ Hz$

$V_{AC} = A\sin(2\pi ft)$
$= A\sin(\omega t)$

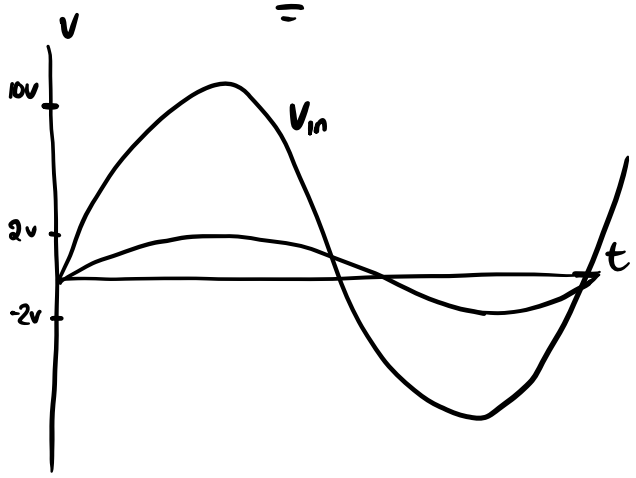
$T = \frac{1}{f}$





$V_{out} = V_{in}\frac{R_2}{R_1 + R_2}$

$V_{out} = \frac{V_{in}}{5}$



$V_{th} = 2v$

$R_{th} = \frac{R_1 R_2}{R_1 + R_2} = 4k$

$V_{out} = \frac{R_L(V_{in})}{R_L + R_{th}} = \frac{1k(2v)}{1k + 4k} = \frac{1K(2v)}{5k}$

$V_{out} = \frac{2}{5}v$

$dB = 10\log P_2/P_1 \qquad P \propto A_{rms}^2$

$= 10\log(A_2/A_1)^2$

$dB = 20\log(A_2/A_1)$